

Remarks

At the outset, the Applicant would like to thank the Office for the careful consideration given the present application in the initial Detailed Action in this matter. With the foregoing claim amendments and the ensuing remarks, the Applicant has endeavored to respond most properly to each of the points raised by the Office to ensure that the application is allowable in all respects. With this in mind, the Applicant respectfully requests that the Office review and allow the current specification and claims.

In brief summary, the present application was filed with a total of 25 claims with claims 1 and 19 written independently. With the present response, certain claims have been amended and claims 8, 9, 22, and 23 have been cancelled thereby leaving claims 1-7, 10-21, 24, and 25 pending for consideration.

Claim Objections

In the Detailed Action, the Office objected to claim 24 indicating that the term “the thermistors” in line 2 lacked antecedent basis. In response, the Applicant has amended claim 24 to depend from claim 19, which provides proper antecedent basis for the term “the thermistors”. Accordingly, the Applicant respectfully submits that claim 24 is in condition for allowance in this regard, and the Office’s reconsideration and allowance are requested.

Double Patenting

The Office rejected claims 1-7 and 12-21 under the judicially created doctrine of

obviousness-type double patenting over the Applicant's U.S. Patent No. 6,619,118 in combination with U.S. Patent No. 6,014,076 to Luzzader. Also, claims 8-9 and 22-23 were rejected based on a double patenting rejection combining Applicant's U.S. Patent No. 6,619,118 with Luzzader and U.S. Patent No. 4,832,711 to Christel et al. The Office did indicate that the double patenting rejections can be overcome by the filing of a terminal disclaimer, which would cause any patent resulting from the present application to expire on the same day as the original patent will expire.

With the present response (as will be discussed further below), the Applicant has incorporated certain limitations from claims 10 and 24, which were indicated by the Office to be directed to allowable subject matter, into base claims 1 and 19. For the reasons set forth below, the Applicant submits that the amendments to claims 1 and 19 place those claims and the claims that depend therefrom in condition for allowance and obviate the Office's double patenting claim rejections. Accordingly, the Applicant has refrained from filing a terminal disclaimer at this time based on the proposition that the current claims are in condition for allowance without a need for filing such a document.

Claim Rejections – 35 U.S.C. § 103 / Allowable Subject Matter

With respect to obviousness, the Office preliminarily rejected claims 1, 12, 13, and 19 as being unpatentable under 35 U.S.C § 103 over U.S. Patent No. 3,923,655 to McKinney in view of U.S. Patent No. 3,025,962 to Williams and further in view of U.S. Patent No. 6,014,076 to Luzzader. Also, claims 8-9 and 22-23 were rejected as being unpatentable over McKinney in view of Williams, Luzzader, and U.S. Patent No. 4,832,711 to Christel et al.

However, the Office did indicate that claims 10-11 and 24-25 were directed to allowable subject matter and that those claims would be allowed if rewritten to stand independently including all limitations of their base claims and any intervening claims. In doing so, the Office wrote that the prior art failed to teach a rate of heat transfer from the thermistors to a surrounding medium is

5 determined by the formula:

$$\dot{Q} = kA(T - T_0) / \delta$$

where $A = \pi D^2 / 4$ and is the area of the thermistor and δ is the appropriate boundary-layer thickness, and k is the thermal conductivity of a uniform medium in a vertical adiabatic wall in which the thermistor is mounted.

In reviewing the cited prior art, the Applicant agrees that the prior art fails to teach a rate of
10 heat transfer from thermistors to a surrounding medium as determined by Applicant's formula. However, the Applicant further believes that the prior art fails to teach or suggest employing a "*rate of heat transfer from the thermistors to a surrounding medium*" to provide an indication of whether the sensor is disposed proximal to the sedimentary layer, the scum layer, or any intervening liquid zone in the septic tank *without regard to the particular equation employed*. Accordingly, such a
15 limitation should render Applicant's claims patentable over the cited art.

With this in mind, the Applicant has incorporated the limitations of canceled claims 8 and 9 and—except with respect to the particular equation set forth therein—the limitations of allowable claim 10 into independent claim 1. The Applicant has carried out a corresponding amending of independent claim 19 by incorporating the limitations of canceled claims 22 and 23 and the
20 necessary limitations of claim 24.

Because the prior art fails to teach or suggest the limitations of amended claims 1 and 19, the Applicant submits that those claims and the claims that depend therefrom are allowable over the cited art. The Applicant further submits that each of claims 2-7, 10-18, 20, 21, 24, and 25 are patentable for all of the reasons that base claims 1 and 19 are patentable and because they add
5 additional limitation thereto. Accordingly, the Office's reconsideration and allowance of claims 1-7, 10-21, 24, and 25 are most respectfully requested.

Conclusion

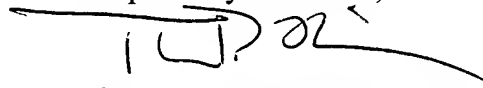
In light of the above, the Applicant respectfully submits that each of presently pending claims
10 1-7, 10-21, 24, and 25 is directed to patentably novel and nonobvious invention. With this in mind, the Office's reconsideration and allowance of the present application are most respectfully requested.

In closing, the Applicant notes that he believes that he has fully responded to all issues raised in the Detailed Action. However, if after consideration of the above amendments and comments there remain any open issues in this application that possibly can be resolved by a telephone interview, then
15 the Applicant's undersigned attorney most respectfully requests that he be called to discuss and attempt to resolve those issues.

10/28/2004

Date

Respectfully submitted,


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